WE CLAIM:

1. A direct and non-destructive method for measuring recess depth in a semiconductor wafer through use of a solvent, comprising:

a) placing a recessed wafer into a track;

b) pouring a solvent into the wafer;

c) commencement of spinning the track-wafer-solvent to recess said solvent into the wafer trench solvent;

d) subjecting the track-wafer-solvent from step c) to a subsequent spinning step to spin-off any remaining solvent on the surface of said wafer to leave the wafer trench filled with solvent;

e) weighing the solvent-filled-trench wafer;

f) subjecting the solvent-filled-trench wafer to heating to remove said solvent; and

g) weighing the solvent-free wafer to determine the difference in weight, and using the density of the solvent together with the difference in weight to determine the recess depth.

2. The method of claim 1 wherein said solvent is an organic solvent.

3. The method of claim 2 wherein said solvent is characterized by a density of about $1.4 g/cm^3$.

4. The method of claim 3 wherein said semiconductor device dimension is 0.13um or less.

5. The method of claim 1 wherein said semiconductor device is a 110nm DRAM product characterized by 308 chips per 8 inches of wafer, and a half billion trenches per chip.

6. The method of claim 5 wherein each trench has a width of 125nm, a length of 220nm and a depth of 1.3um.

7. The method of claim 6 wherein the total volume of trench filled-up with said solvent is about $4.3mm^3$.

8. The method of claim 7 wherein said weight difference is about 6mg.

9. The method of claim 1 wherein said recess is a polysilicon recess.

10. The method of claim 9 wherein said polysilicon recess results from an ASG or a LOCOS process.